BROENING HIGHWAY CORRIDOR IMPROVEMENT PROJECT

United States Department of Transportation

Transportation Investment Generating Economic Recovery VI (TIGER VI)

Broening Highway Corridor Improvement Project

Application Contact Information

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Project Information

Type:
Capital Improvements

Location:
Baltimore City, Maryland

Congressional District:
MD Districts 2 and 3

Urban Area

Funds Requested: $10,000,000

I. PROJECT DESCRIPTION

The City of Baltimore Department of Transportation (Baltimore City DOT), in partnership with the Maryland Department of Transportation (MDOT) and Maryland Port Administration (MPA), requests **$10 million** in Transportation Investment Generating Economic Recovery VI (TIGER VI) grant funding, which represents 31 percent of total project costs. These funds will complete the funding package for a **$32 million** project that will repair and enhance a vital freight network of roads and bridges. This infrastructure is critically necessary for the economic security of the Port of Baltimore and protects communities by redirecting truck traffic away from residential neighborhoods. The project is located in Baltimore City, five miles southeast of downtown Baltimore in an Economically Distressed Area (EDA).

The **Broening Highway Corridor Improvement Project** comprises two components that compliment additional projects underway and complete strategic investment along the Broening Highway corridor:

1. **Colgate Creek Bridge Replacement:** Replace a structurally deficient, functionally obsolete bridge on Broening Highway over Colgate Creek, which will enable trucks to reroute away from residential communities.

2. **I-95 Access and Complete Streets Improvements:** Create a new route for trucks to access I-95, circumventing a residential neighborhood and implementing complete streets improvements.

State and local funds will match the TIGER VI grant by **$14 million** for a total of 44 percent of project costs. Baltimore City has committed **$12 million** in local funds for this priority project. In addition, due to the importance of efficient freight movement to the economic competitiveness of the state and the region, the Mary-

land Port Administration (MPA) has committed **$2 million** toward the cost of the project. Baltimore City DOT will also apply **$8 million** in MAP-21 Aid for Bridges (FHWA) funding. This project completes a comprehensive network of capital improvements programmed or recently completed by MPA, Maryland Transportation Authority (MDTA), Baltimore City Housing and Community Development (HCD), and Baltimore City DOT.

While this grant application is for comprehensive corridor improvements on Broening Highway, the project can be scaled to only replace Colgate Creek Bridge – the most critical infrastructure need jeopardizing the efficient movement of freight and the economic stability and competitiveness of the Port. If scaled, state and local funds will match the TIGER VI grant by $10 million for a total of 50 percent of project costs.

The Baltimore City DOT TIGER VI application is designed to increase the economic competitiveness of the Port of Baltimore, provide access to opportunity, and enhance the quality of life for residents of the surrounding communities. The project will improve and enhance existing assets that will facilitate efficient freight movement in and out of Dundalk and Seagirt Marine Terminals. Most importantly, this project will expand truck access to the interstate system while protecting residential communities currently impacted by freight movement. Additionally, this project will support private investment along critical freight routes, including a new Amazon fulfillment center and investment by Ports America, Chesapeake at the Seagirt Marine Terminal. The ability of trucks to efficiently travel while minimally impacting communities is vital to continued economic success, job retention and creation, and middle class growth in Baltimore City as well as the region.

Project benefits include the following highlights:

A. State of Good Repair

- Replaces deteriorated 1960's era bridge on Broening Highway that connects Dundalk Marine Terminal to I-95 and Seagirt Marine Terminal to East/West freight access via I-695.

B. Economic Competitiveness

- Provides efficient freight access to the United States' premier port for automobile imports and exports, handling almost 750,000 cars and trucks in 2013. Baltimore also ranks first among United States ports for handling farm and construction machinery, trucks, sugar, salt, iron ore, and other imports and exports, as well as ranks second for exported coal.

- The Port of Baltimore is one of two East coast ports capable of handling the larger ships accommodated by the expansion of the Panama Canal, positioning the Port to experience significant growth. This increased activity at the Port represents a major economic driver for the City of Baltimore, State of Maryland, and the nation.

- Provides access to expanding industrial facilities, including a new regional fulfillment center for national retailer Amazon, expected to directly create 1,000 fulltime jobs.

- Catalyzes redevelopment by sustaining the economic competitiveness of the

MPA Container Terminals

Port of Baltimore, which supports close to 15,000 direct jobs and over 100,000 port-related jobs, creating $3 billion in wages and $300 million in state and local taxes.[i]

C. Quality of Life

- Relocates trucks away from residential streets, creating more livable communities and connecting economically disadvantaged populations to opportunity by improving access to affordable and convenient transportation choices.
- Provides freight traffic with a more direct access to the interstate highway system, reducing travel time and conflicts between truck traffic and residential neighborhoods.
- Creates a more walkable, bikeable environment accessible to users of all abilities through implementation of complete streets design guidelines.

D. Sustainability

- Improves existing transportation choices that reduce congestion and travel times.
- Reduces direct freight movements, which will improve energy efficiency by reducing oil dependence as well as greenhouse gas and diesel truck emissions.

E. Safety

- Directs freight traffic around residential communities and improves intersection geometry to minimize vehicular, truck, pedestrian, and bicycle incidents.

F. Innovation

- Applies a comprehensive, multi-agency methodology to improving freight movement while supporting economic development throughout the Baltimore region.

G. Partnerships

- Approaches freight movement and community transformation through jurisdictional cooperation and disciplinary integration, applying expertise in transportation planning, environmental protection, and economic development.
- Includes the support of public and non-profit partners, including the Maryland Department of Transportation (MDOT), Maryland Port Administration (MPA), State Highway Administration (SHA), and Maryland Transportation Authority (MDTA).

Background

Since its founding over 300 years ago, Baltimore has been rooted in maritime trade and international commerce. A major shipping and manufacturing center, Baltimore's transportation network links the City with major markets across the country, which continues to support its role as a major shipping and manufacturing center.

The Port of Baltimore moves over 44 million tons of cargo each year and is poised to continue to grow due to recent investments in major new infrastructure, including new "Super Post-Panamax" cranes to handle larger ships and a new 50-foot-deep container berth. As one of only two East coast ports capable of handling the larger ships accommodated by the expansion of the Panama Canal, the Port of Baltimore is primed to experience tremendous growth. The fifth largest port on the East Coast, the Port of Baltimore remains the primary port in the nation for roll-on/roll-off (RoRo) cargo, including over-dimensional "high and heavy" cargo. Additionally, CSX Transportation, Inc. is in the process of creating a 70-acre intermodal facility in Baltimore, which

will support the increased cargo from the Port by allowing the transfer of double-stack cargo containers from trucks leaving the Port onto trains.

These investments are critical to the long-term future of the Port of Baltimore, and enable Maryland to retain existing business and jobs while accommodating new economic opportunities as these larger ships arrive. While this position promises increased economic opportunity for the City of Baltimore and the region, it also presents challenges to the Port as well as the surrounding residential community, both of which must prepare to handle increasing freight movement throughout the area. Currently, oversize/overweight (OS/OW), or "high and heavy," cargo must use Baltimore City and Baltimore County roads to access the interstate highway system, traveling through several residential neighborhoods. The Broening Highway Corridor Improvement Project comprehensively provides more direct truck access between the Port and the interstate highway system while removing trucks from residential streets.

Several studies and master plans highlight the criticality of balancing investment in transportation infrastructure with community quality of life.

The Broening Highway Corridor Improvement Project integrates several robust planning processes, all focused on improving the balance between the viability of port-related businesses and the livability of the residential areas. Several studies and plans have raised and analyzed the impact of freight movements from the two marine terminals on the communities of Southeast Baltimore, including:

- The 2005 **Southeastern Neighborhoods Development** (SEND) **Strategic Neighborhood Action Plan** (SNAP) discusses the relationship between the Port and the surrounding communities, highlighting the challenges of truck traffic as well as the benefits of economic and employment opportunities for the region.

- The 2007 **Baltimore City Comprehensive Plan** emphasizes the importance of integrating land use and transportation planning to ensure movement of freight throughout the City.

- The 2009 **Maryland Statewide Freight Plan** presents critical issues facing freight, offering strategies to help Maryland prepare for the estimated 75 percent increase in freight by 2030. Projects that create better freight connectivity between the marine terminals and the interstate system are among those proposed under the Plan. As stated in the plan, "Projected economic growth… will lead to increased freight traffic and a corresponding acceleration of road and bridge infrastructure deterioration,

Oversized Freight Truck

a worsening of congestion, and heightened safety and community livability concerns. As congestion increases on key freight corridors, shippers, carriers, and logistics providers will shift to alternate routes, directly impacting mobility for both people and goods – and indirectly, jobs – statewide."

- The 2012 **Baltimore Port Communities Freight Impact Study** and subsequent **Baltimore Port Communities Freight Management Plan** analyzes current and projected freight demand and offers strategies to mitigate those impacts while supporting the continued and expanding operations at the terminals at near-by port-related businesses.

- In 2013, Baltimore DOT commissioned the **Broening Highway Feasibility Study** to specifically evaluate alterative traffic movements on Broening Highway, as identified in the Baltimore Port Communities Freight Management Plan. The

study determined a more direct route for truck traffic (proposed in this application) between the marine terminals and the interstate system that would route trucks away from residential communities.

Taken together, these studies and plans demonstrate the vital need for a comprehensive approach to supporting the economic competitiveness of the Port through efficient freight movement while protecting the surrounding communities. These plans clearly articulate the relationship between the Port and the community as integral to the economic growth of the Port and job creation for the region.

Investment that supports the middle class is critical to catalyzing neighborhood growth and stability in disadvantaged communities around the Port of Baltimore.

Employment, income, and health statistics in Southeast Baltimore highlight the importance of supporting the growth of the residential communities in this economically-distressed area. Mixed-income urban redevelopment and new employment opportunities such as Amazon position the community to grow and stabilize. Perhaps most importantly, port-related jobs offer competitive wages that help support and grow the middle class. It is critical to support this area's momentum by mitigating the impacts of high freight traffic and enhancing access to employment opportunities.

O'Donnell Heights, a public housing development in the area, is undergoing a major redevelopment, integrating affordable housing into a new mixed-use development. Connecting this population with jobs and amenities and creating a safe and stable community is critical to its success. Approximately one-third of the area's population has no access to a private vehicle, and about a quarter of residents use public transportation to get to work. In addition, Southeast Baltimore has a "walk score" (a measure of public access to amenities by foot) of only 25.8 out of 100; Baltimore City's overall "walk score" is over twice this, at 66. These statistics illustrate the need for safer streets that are separated from truck traffic.[ii]

For Baltimore's Southeast neighborhoods, creating economic growth and ladders of opportunity is crucial. To this end, the **Mayor's goal to grow the City by 10,000 families in 10 years** depends on Baltimore's ability to attract and retain residents by providing safe communities and a strong economy. Residents in Baltimore's Southeast have a higher percent of population living below the poverty line (21.5 percent) compared to the City at large (17.7 percent), and a lower comparative median household income ($30,864 compared to $40,100). Over a third of the population in this community has less than a high school diploma or GED (36.4 percent), and approximately half of the population between 16 and 64 is not employed.[iv]

Project Elements

Oversize/Overweight Cargo

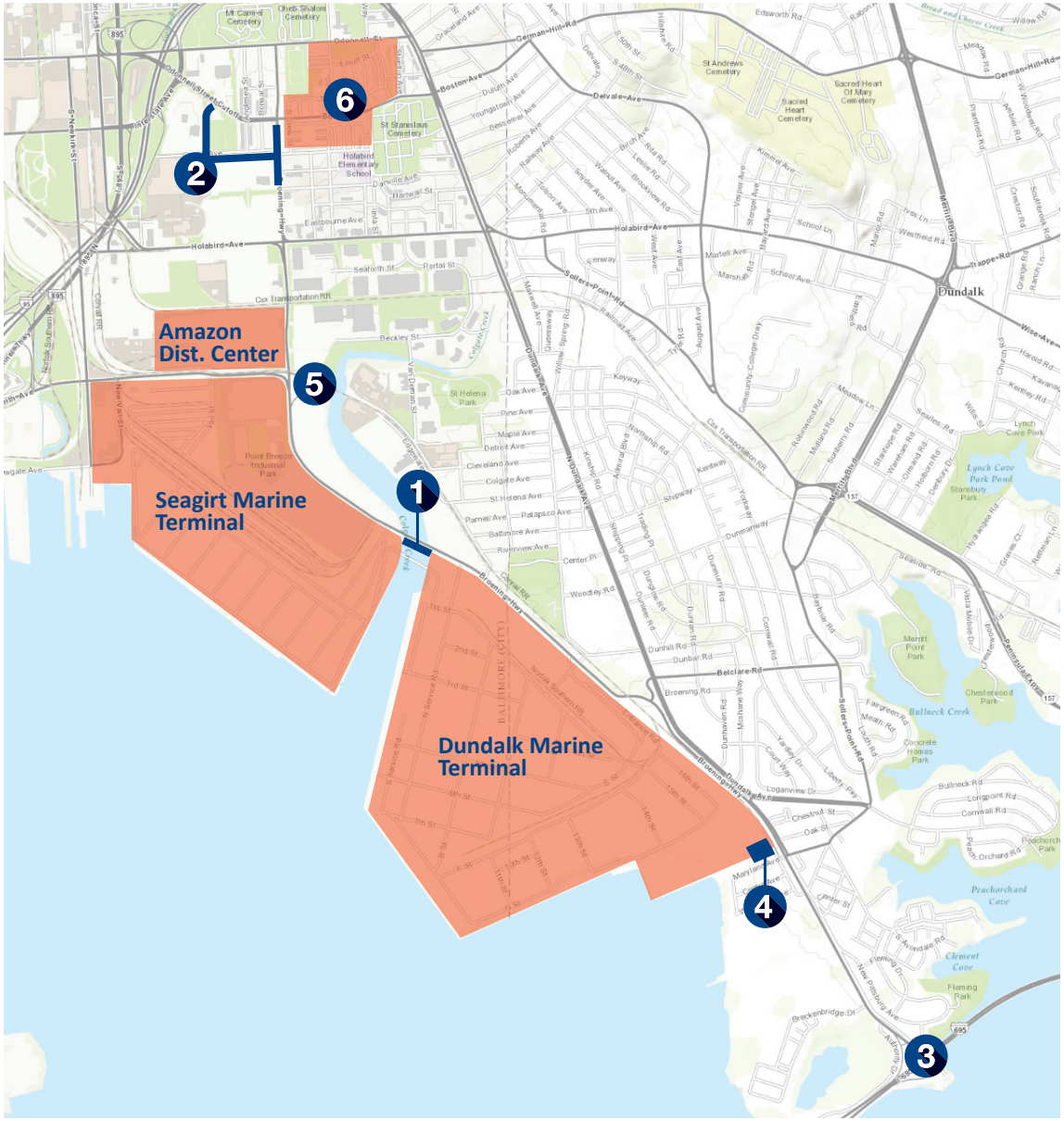
The Broening Highway Corridor Improvement Project depends upon the prompt and coordinated completion of transportation infrastructure improvements that enable Baltimore City to support the needs of its residents as well as the Port. Specific project elements included in this application can be implemented individually or holistically, depending on the extent of TIGER VI funding obtained. The Broening Highway Corridor Improvement Project elements described below represent a range of highway, bridge, and complete streets improvements necessary to support the economic and community growth in Southeast Baltimore.

Proposed - TIGER VI Project Elements

1. Colgate Creek Bridge Replacement
2. I-95 & Complete Street Improvements

Current - Corridor Improvements Underway

3. Expanded Interstate Access
4. DMT Gate Access
5. Broening Highway/Keith Avenue Improvements
6. Transit & Roadway Improvements Supporting Livable Communities



Project Area

The proposed project includes:

A. Colgate Creek Bridge Replacement: Replace a structurally deficient, functionally obsolete bridge on Broening Highway over Colgate Creek, which will enable trucks to reroute away from residential communities.

B. I-95 Access and Complete Streets Improvements: Create a new route for trucks to access I-95, circumventing a residential neighborhood and implementing complete streets improvements.

A. Colgate Creek Bridge Replacement

Colgate Creek Bridge is in overall poor condition and must be replaced to support the freight traffic in the area. Positioned in close proximity to the entrances to Seagirt Marine Terminal and Dundalk Marine Ter-

Current OS/OW Truck Route and Conflicts

- Road Closure to Accomodate OS/OW Turning
- 1 Dunhill Rail Crossing
- 2 Private Road
- 3 Residential & Street Retail Impacted by Truck Traffic
- 4 Colgate Creek Bridge
- 5 Access to I-95

minal, Colgate Creek Bridge is a critical connection for freight movement in and out of the marine terminals. However, due to the increased demand for freight at the Port and subsequently greater stress upon the bridge due to these larger load weights of trucks, the bridge is in dire need of replacement earlier than its initial expected lifecycle. Emergency repairs have enabled this critical bridge to stay open to private vehicle and light freight. However, without total replacement this bridge will become impassible for all truck traffic. Such a closure will cause major disruptions to efficient freight travel and drastically reduce the Port's competitiveness and ability to attract and retain economic investment.

Due to the bridge's poor condition, and subsequent weight restriction, oversize and overweight loads must bypass Colgate Creek Bridge. Rerouting directs these freight movements through residential communities in both Baltimore County and Baltimore City, significantly impacting neighborhoods in the Southeast. Permitted oversize/overweight loads are granted permission to travel on these residential streets as there is not an alternative routing option. Replacing the bridge will remove

Alternate Truck Route with Colgate Creek Bridge Closure

Truck Route with Colgate Creek Bridge Replacement and new I-95 Access

Impacts to Truck Route with Bridge Closure

truck traffic from residential streets, shifting them back to Broening Highway and facilitating more direct access to the interstate system.

If Colgate Creek Bridge is not replaced, this bridge will be impassable for all truck traffic, resulting in a complete rerouting of all traffic to alternative routes. As a result, all truck traffic – not only that which is oversize/overweight – would be required to reroute around the residential communities by way of I-695. This would add approximately 12 miles to each truck's route to and from the marine terminals and interstate system, resulting in 160 million additional miles traveled by rerouting trucks over the next 30 years. These additional vehicle miles traveled create a greater environmental impact compared to the direct route over Colgate Creek Bridge. Completion of the bridge replacement project will reduce total vehicle miles traveled and resulting air pollution, noise, pavement wear, congestion, and crash costs by 79 percent. Further, 174,115 tons of CO2 that would be produced in the absence of this project will be eliminated over the next 30 years – a 78 percent reduction overall.

Additionally, since limitations cannot be placed upon the routes of privately owned vehicles, the bridge closure would still result in a severe increase in vehicular travel through the neighborhoods, as all traffic will be forced to reroute around the bridge and through residential streets, which are not designed to accommodate this load. This will jeopardize the safety and stability of these communities.

Container Ships and Cargo

B. I-95 Access and Complete Streets Improvements

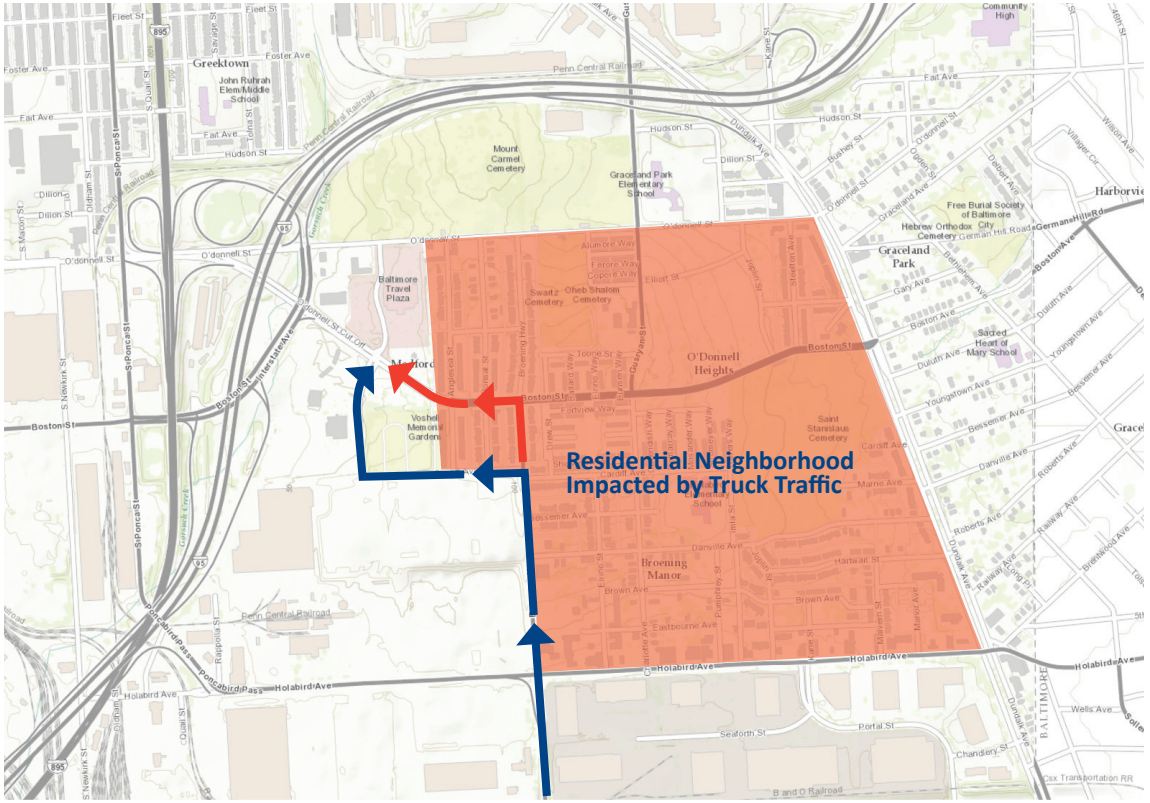
This project will create a new roadway section linking Broening Highway to I-95, circumventing the residential neighborhood of Medford. Currently, export and import freight arriving from and bound for I-95 consistently travels through a residential segment of Broening Highway. By constructing this new roadway segment, freight movement will bypass the residential neighborhoods along Broening Highway north of Cardiff Avenue. The proposed route would reroute freight vehicles to Cardiff Avenue and extend the existing roadway to connect to an adjacent travel plaza. The improved roadway connection will protect St. Paul's cemetery by routing the new roadway along its southern and western boarders. Retaining walls would be utilized to miti-

gate the major grade difference between the new road and the cemetery. The existing parking lot drive aisle will be upgraded to a public two-lane roadway, enabling all trucks to access I-95 via Boston Street directly.

This route will create a direct and efficient route for truck traffic that improves the safety conditions for the surround community by separating freight from residential roads; additionally, the residential section of Broening Highway north of Cardiff Avenue will feature improvements utilizing complete streets principles that will discourage truck traffic from continuing north through this segment. Design elements will include a "road diet," narrowing the roadway and making it less conducive to truck passage, as well as improved conditions for bicyclists and pedestrians; existing sidewalk conditions are hazardous and do not encourage pedestrian traffic as there is no buffer between the street and sidewalk. Eliminating freight movements through the neighborhood will improve the quality of life by creating a safer roadway environment for the residents.

Corridor Improvements Underway

The project elements in this grant application will closely coordinate with several key projects underway. Together, the current and proposed projects create a freight corridor that enables efficient truck movement in and out of the Port while protecting the surrounding residential communities. The two project elements in this grant application are critical components to complete this corridor; the impact of each of these projects is enhanced by the complete implementation of all pieces of the corridor improvements.



Proposed and Current Truck Access to I-95

A. Expanded Interstate Access

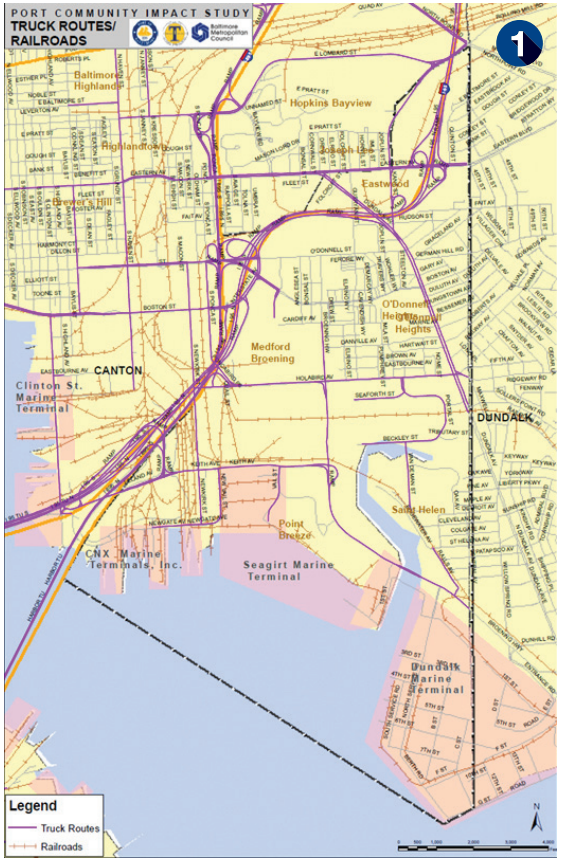
Until recently, the roadway configuration on Broening Highway prevented trucks from accessing northbound I-695 – a critical connection to east/west freight access via I-70. Additionally, southbound traffic on I-695 cannot exit onto Broening Highway. This is a critical connection for freight ac-

cess to and from the Port, making this project a high priority. Roadway modifications undertaken by the Maryland Transportation Authority (MDTA) at the Key Bridge have facilitated these movements, providing full access for freight movements to and from the Port at I-695. A new service road provides access to northbound I-695 from Broening Highway as part of this effort. The reconstruction project increased the pavement depth and turning radius of the roadway, which now allows oversized trucks from the Seagirt and Dundalk Marine Terminals to access northbound I-695 from Broening Highway.

MDTA is studying the concept of a reduced toll for trucks that access northbound I-695 from Broening Highway. Implementing this reduced toll would support the coordinated effort to reroute trucks away from residential communities, as it currently discourages truck drivers from utilizing the highway; rather, they divert through the residential neighborhoods to access I-695 at a later point, bypassing the tolls. A final decision is forthcoming, but discussions with the Maryland Motor Truck Association and the communities impacted by the current truck diversions on this concept are underway.

B. Dundalk Marine Terminal Gate Access

The Maryland Port Administration (MPA) requires additional capacity at Dundalk Marine Terminal (DMT). The MPA is investing $5 million to increase cargo storage by four acres (with associated new jobs) by demolishing an existing building that is in disrepair and functionally obsolete. Clearing this land increases cargo storage, and facilitates the creation of a new back gate. Currently, Dundalk Marine Terminal has a single privately owned vehicle (POV) point of entry, resulting in congestion and delays during peak times. A second gate for POVs will improve traffic flow at the Terminal during peak operating periods by rerouting some POV traffic as well as escorted oversize/overweight freight to the back gate, providing redundancy during normal operations as well as facilitating rapid evacuation in the case of emergency.



1 Truck Routes and Railroads

2 Truck Routes and Limitations

Currently, trucks moving oversize/overweight cargo must route their permitted loads in to and out of Dundalk Marine Terminal through residential communities. The back gate will allow the carrier to reduce the impact on communities around the terminal. Ultimately, the back gate will provide a new route for over 500 permitted loads per year at a savings to the customers of the Port.

The Dundalk Marine Terminal Gate Access Project has three components:

1. Demolish the Mestek building, a dilapidated structure that will allow the MPA to improve the area and provided additional space for the ports growing cargo base. The area will net about four additional acres for cargo storage at the terminal.

2. Design and build a back gate that can be used by specialized carriers that are moving oversize/overweight shipments to and from Dundalk Marine Terminal.

3. Design and build a back gate for POVs to enterand exit the terminal.

C. Broening Highway

In 2012, Baltimore DOT commenced the reconstruction and rehabilitation of Broening Highway between Colgate Creek Bridge and Holibird Avenue. Roadway reconstruction included full-depth concrete replacement on Broening Highway, as well as the reconfiguration of the Keith Avenue ramp to enable trucks to directly access I-95. While this new ramp enables freight leaving the marine terminals and surrounding industrial area to access I-95 directly, it cannot accommodate oversize/overweight trucks. As part of this comprehensive project, Baltimore DOT also included improvements to the curb, sidewalk, and lighting to facilitate a safer pedestrian environment.

O'Donnell Heights Development

D. Transit and Roadway Improvements Supporting Livable Communities

The O'Donnell Heights community, adjacent to the Broening Highway corridor, covers 62 acres and replaces 1940s era workforce housing with a new mixed-use development of affordable housing. The **O'Donnell Heights Master Plan** outlines 4 phases of construction, which will ultimately yield approximately 900 rebuilt units over the next 10 years. Part of this residential redevelopment will create a new street grid and improve pedestrian facilities. The original development divided the community into four superblocks; consequently, the new master plan seeks to break up these blocks, connecting the new internal roads to the traditional street grid of the surrounding communities. Not only will this new network of residential streets facilitate increased walkability, but it will also blend the new development with the surrounding neighborhoods, creating a more cohesive mixed-income community.

II. PROJECT PARTIES

Baltimore City DOT, in coordination with the Maryland Department of Transportation (MDOT) and MPA, will carry out the projects proposed in this grant. Baltimore City DOT is leading local and regional efforts to create a seamless freight network that supports the region's economic competitiveness and improves quality of life for Baltimore residents. As the lead agency for the TIGER VI grant, Baltimore City DOT will be responsible for grant implementation, including day-to-day management, coordination among project partners, quality control, and project evaluation.

The Broening Highway Corridor Improvement Project has a large and diverse group of stakeholders, many of whom have committed to the planning, engineering, or capital cost portions of the project. The Mayor of Baltimore City has joined U.S. Senator Ben Cardin, and U.S. Congressmen Elijah Cummings, Dutch Ruppersburger, and John P. Sarbanes in supporting this project. The complete list of stakeholders includes:

- Baltimore City Department of Transportation
- Baltimore City Department of Housing and Community Development
- Maryland Department of Transportation (MDOT)
- Maryland Port Administration (MPA)
- Maryland Transportation Authority (MDTA)
- Baltimore Industrial Group
- Amazon
- Communities of Medford, Broening Manor, Graceland Park, and Saint Helena

Many elected officials support this project. Their letters of support are attached to this application as an Appendix.

III. GRANT FUNDS AND SOURCES/ USE OF PROJECT FUNDS

Baltimore City has coordinated with state agencies, private businesses, and the local community over the past decade to develop solutions that will improve freight movement along Broening Highway. In recognition of the importance of these improvements to the local and regional economy, as well as in support of neighborhoods that would benefit from a reduction in truck traffic, several entities are contributing important funds that will make this project a reality.

A. Local Funds ($12 million)

Baltimore DOT receives an annual allocation of $15 million in Maryland County Transportation Bond funds. Of this allocation, the City is committing **$10.4 million** as a match to the TIGER VI request.In addition to the matching funds for TIGER, Baltimore DOT will also program **$1.6 million** as match for MAP-21 Federal Aid in support of the project. *If scaled to only include the Colgate Creek Bridge Replacement, the City will provide an $8.0 million local match*.

B. State Funds ($2.0 million)

The Maryland Department of Transportation (MDOT) is responsible for building, operating, and maintaining a safe and seamless transportation network that links Maryland with the rest of the country and the world. MDOT directs and oversees the planning, construction, and operation of Maryland's highway, transit, maritime, rail, and aviation facilities, as well as the Maryland Motor Vehicle Administration. The modes are funded by a common funding source, Maryland's Transportation Trust Fund.

The Transportation Trust Fund is separate from the State's general fund and its revenues are dedicated to improving and operating Maryland's transportation network. The five modal administrations, and the Maryland Transportation Authority, all work together to assist each other in the development of a seamless transportation

system designed to fuel Maryland's economy and enhance the quality of life of its citizens.

In demonstration of the importance of this project to the economic competitiveness of the state and the region, the Maryland Port Administration (MPA) is directing **$2 million** toward the overall cost of the project. *If scaled to only include the Colgate Creek Bridge Replacement, the MPA's contribution will remain $2 million.*

C. Federal Funds ($8.0 million)

The City receives an annual share of approximately 6.5% of the State's allocation of MAP-21 Federal Aid. In support of the TIGER request, the City has programmed approximately **$8.0 million** in Bridge Rehabilitation and Replacement funds for the Colgate Creek Bridge replacement. *If scaled to only include the Colgate Creek Bridge Replacement, the MAP-21 contribution to the project is eliminated.*

D. TIGER VI Funds ($10.0 million)

The City is requesting **$10.0 million** in TIGER VI funds, which represents 31 percent of total project costs, to fill the gap between the sources described above and the project budget. Without these important funds, overall freight improvements to the Broening Highway Corridor will not be possible. *If scaled to only include the Colgate Creek Bridge Replacement, the TIGER request will remain $10.0 million.*

The table below summarizes the full and scaled funding for this project:

PROJECT FUNDING SUMMARY	Full Project		Scaled Project	
Project Element	**Project Cost ($ millions)**		**Project Cost ($ millions)**	
I-95 Access and Complete Streets Improvements (Cardiff Avenue)	$12.0		$-	
Colgate Creek Bridge Replacement	$20.0		$20.0	
Total Project Cost	**$32.0**		**$20.0**	
Sources and Uses	**Amount**	**% Contribution**	**Amount**	**% Contribution**
Baltimore City- Local Match for TIGER VI Request	$10.4	33%	$8.0	40%
Baltimore City Local Match for MAP-21 Aid for Bridges	$1.6	5%	$-	0%
State of Maryland – Maryland Port Administration (MPA)	$2.0	6%	$2.0	10%
MAP-21 Aid for Bridges (FHWA)	$8.0	25%	$-	0%
TIGER VI Grant Request	$10.0	31%	$10.0	50%
Total	**$32.0**	**100%**	**$20.0**	**100%**
Total Local/State Match		**44%**		**50%**

IV. SELECTION CRITERIA

A. Primary Selection Criteria

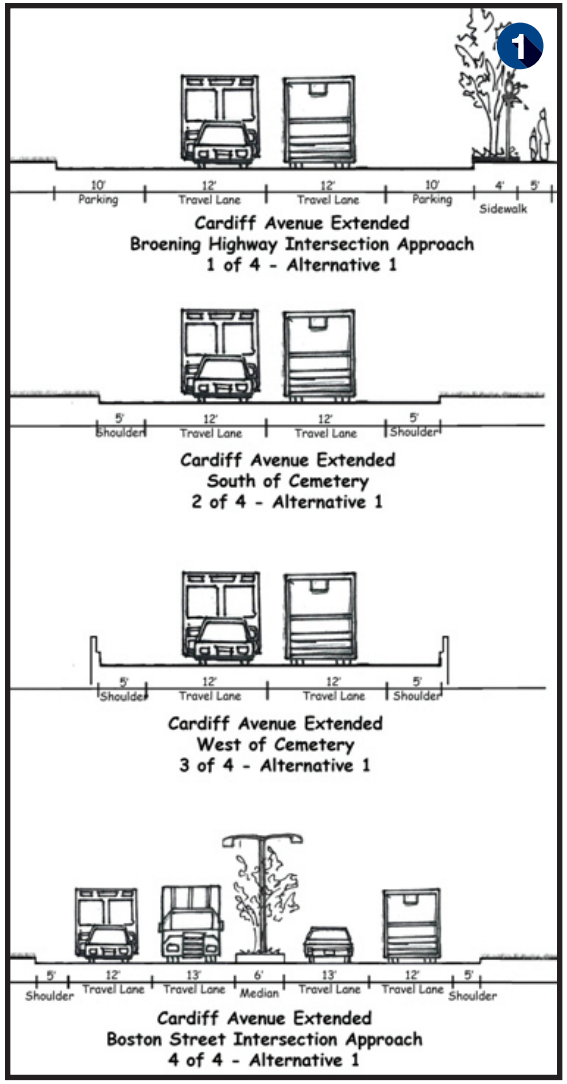
STATE OF GOOD REPAIR

The TIGER VI project is consistent with local efforts to improve the condition of existing transportation facilities and systems, maintaining assets in a state of good repair to minimize life-cycle costs and improve resilience.

The City has developed the Baltimore Port Communities Freight Master Plan to identify solutions that address operational, safety, and capacity deficiencies and vulnerabilities in the transportation network impacting the Port of Baltimore, as well as the surrounding communities. It is critical that the City address these transportation deficiencies to support a robust regional economy through the critical movement of goods and services around the Port of Baltimore, as well as the vitality of the surrounding residential communities.

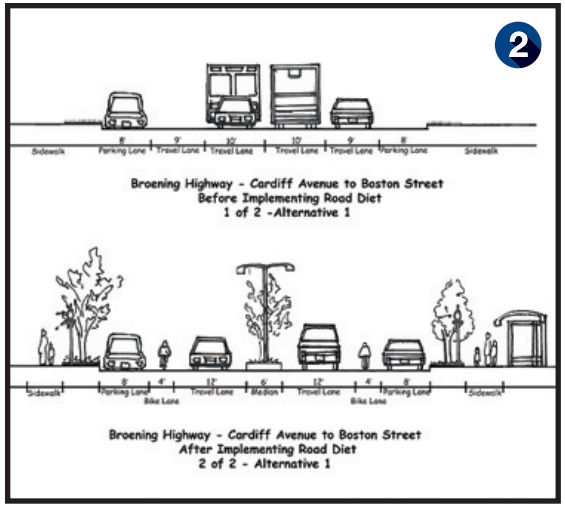
This TIGER VI request directly addresses the State of Good Repair objective by including funding for:

- Reconstructing the Colgate Creek Bridge, which is structurally deficient and therefore cannot be used by oversize/overweight trucks. The bridge reduces miles traveled by overweight/oversize loads on city streets by 33.8 percent, reducing wear and tear on roadways not designed to sustain these loads. This bridge is located at a critical segment of Broening Highway, connecting the Dundalk Marine Terminal and the Seagirt Marine Terminal to I-95 and I-695, respectively.
- Constructing pedestrian and bicyclist improvements to sidewalks and roadways within the project area to provide safer access for all users, especially disadvantaged and handicapped residents, offering improved access to jobs, amenities, goods, and services.



1 Cardiff Avenue Extended Typical Sections

2 Broening Highway Road Diet (north of Cardiff Avenue)



The TIGER VI project will upgrade critical transportation infrastructure that threatens future economic growth.

The City's comprehensive strategy to reinvest in Southeast Baltimore's transportation infrastructure is critical to unlocking enormous economic growth opportunities at the Port of Baltimore while supporting the revitalization and stability of the area's residential community. Using this strategy, Baltimore can successfully facilitate sustainable growth for both the Port and its surrounding communities.

Expanding industry in the area, such as Amazon's one million square foot fulfillment center, will bring increased economic growth and job opportunities. However, this growth demands adequate infrastructure in order to sustain and grow commercial and residential populations. Redevelopment is the key to help the City attract and retain new firms, diversify the City's economic base, and counter decades of population loss.

The Broening Highway Corridor Improvement Project minimizes life cycle costs within the regional transportation system in Southeast Baltimore.

The proposed transportation improvements reflect a comprehensive and coordinated approach to infrastructure improvements that meet long-term redevelopment goals. While this application proposes the reconstruction of the Colgate Creek Bridge and roadway improvements, these state-of-good-repair projects are part of a coordinated plan on Broening Highway from I-95 to the North to I-695 in the South. Baltimore City commenced the reconstruction and rehabilitation of Broening Highway north of Colgate Creek in 2012, including roadway reconfiguration and reconstruction and improvements to the curb, sidewalk, and lighting. By addressing the deficits presented by stressed and aging infrastructure proactively and systematically, Baltimore DOT is implementing a broad plan to create a connected corridor that serves all users safely and efficiently.

The proposed investments under this application will not only support the growth of the Port of Baltimore and its associated

surrounding industry, but also prevent unnecessary stress on residential streets. Because the Colgate Creek Bridge's condition renders it unable to support OS/OW trucks, freight traffic continues to reroute on to residential streets, which are not designed to support the associated weight. Consequently, the condition and life cycle of these roads continues to be detrimentally impacted.

ECONOMIC COMPETITIVENESS

The Port of Baltimore is a prominent international trade hub that supports the metropolitan region and contributes to the nation's economy. The Port is strategically situated between two major interstates, I-695 and I-95, enabling the Port to efficiently serve the most densely populated corridor in the US. This connected location is critical to the Port's ability to successfully serve the needs of local and national commerce, supporting the economic competitiveness of the United States. The key elements in this application will support and foster the local and national economy by reducing transportation costs for users, increasing the efficiency of US exports, improving productivity, and creating long-term economic benefits such as creating and preserving jobs for the region and beyond.

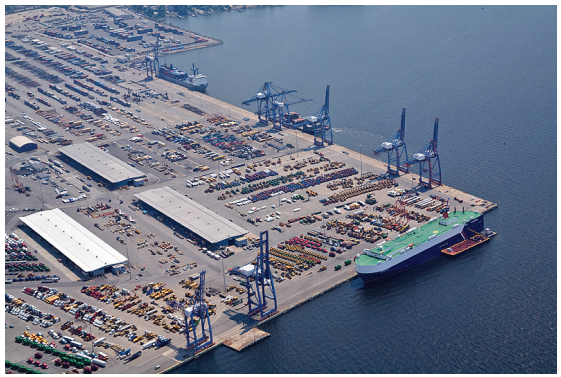
The construction phase activity of this project is expected to generate 347 job-years, which is a representation of a blend of direct, indirect, and induced jobs in the local economy. This calculation is based upon the job multiplier provided by US DOT and the White House Council of Economic Advisers estimate of 13,000 job-years created per one billion dollars.

Strategic infrastructure investments have positioned the Port of Baltimore to capitalize on expanding international trade opportunities and economic growth.

The Port of Baltimore has increased port and freight activity due to recent major capital investments made to the Port, including increased berthing capacity and long-reaching cranes. The Panama Canal Expansion project is expected to be complete by 2015. The Port of Baltimore is projected to realize an increase in cargo movement since it is one of two ports on the East Coast able to accommodate extremely large vessels that will be able to navigate through the expanded Panama Canal. Companies such as Amazon and Mazda recognize the far-reaching economic opportunities that exist at the Port and are responding by building major distribution centers in the area, which will serve as major engines of economic growth and job opportunities.

Increasing freight activity at the Port, as well as associated industry in the surrounding area, requires coordinated investment in supporting infrastructure.

A continued increase in Port activity will result in an increase in freight traffic, negatively impacting the associated roadway network and through-movements within residential neighborhoods. The key project elements identified through this application are critical for handling current and future freight capacity. If Baltimore is unable to invest in these critical improvements,



Dundalk Marine Terminal

New "Super Post-Panamax" Cranes

the Port and City of Baltimore will not be able to take advantage of national and international commerce that depends upon an efficient regional transportation system.

Replacing critical infrastructure that increases the Port's competitiveness supports more stable neighborhoods and economic opportunity.

Neighborhoods in the project area surrounding Broening Highway are designated as Economically Distressed Areas and would greatly benefit from job opportunities created by the growth and expansion of economic activity at and surrounding the Port. Additional economic benefits to these communities would include improved freight access, eliminating freight traffic through their residential streets, which would subsequently create a more desirable, valuable, and equitable community.

Additionally, Baltimore City Housing is working in partnership with a non-profit organization to redevelop a 900-unit residential community that will integrate affordable housing into a new mixed-use development. The current and future activities at the Port will create demand for an increased workforce population. This redevelopment project would complement the need for a larger employment base at the Port, providing residents with economic opportunities, as well as the opportunity to live near their place of employment, decreasing transportation costs and contributing to a better quality of life.

QUALITY OF LIFE

The key elements in this application can enhance transportation choices for the surrounding residential population, improving the quality of life for residents of the bordering neighborhoods.

This project will increase transportation choices and access to transportation services for people in the surrounding communities.

Approximately a quarter of residents in this area depend on transit to get to their place of employment and a third does not have access to a private vehicle.[i] Offering convenient, safe access to transit will substantively contribute to residents' quality of life. Colgate Creek Bridge serves as the only transit access point for the Dundalk Marine Terminal – a major employment center for the region. Residents and workers depend on transit to travel to and from employment in the area each day. Therefore, it is critical that transit service continue without disruption. Additionally, MTA has determined that ongoing growth in the area warrants additional service to the area as early as 2015. However, MTA will be unable to implement any additional service without the Colgate Creek Bridge.

The key elements outlined in this application will substantively improve the quality of life for residents in the surrounding community.

This TIGER VI application pinpoints the most critical infrastructure improvements in the region necessary to support freight movements, commuter options, and local trips. The project also promotes safety by moving hazardous material and heavy loads off residential roadways and onto highways. This provides additional roadway capacity for passenger vehicles and commuters.

Residents who currently reside along congested roadways will benefit from improved air quality and a reduction in noise pollution once the truck traffic is rerouted. The proposed connection on Cardiff Avenue will reduce air and noise pollution from trucks in the vicinity of the residential street by 28.8 percent. This project will create a more de-

Roll-on/Roll-off Cargo

sirable housing market that will lead to reduced neighborhood turn-over, increased property values, and lower crime rates.

This TIGER VI project will unlock additional commercial and residential investment along the Broening Highway Corridor.

The Port of Baltimore generates approximately 15,000 direct jobs and over 100,000 Port-related jobs. The outlined enhancements will support the planned projects for this area further adding to the employment base in this area. Amazon is building a one-million square foot fulfillment center, which adds an additional one-thousand employment opportunities to the local economy. Amazon has stated that they plan on hiring locally and boasts higher paying positions compared to typical retail positions.

The O'Donnell Heights community is a planned mixed-use/mixed-income residential development covering 62 acres yielding around 900 residential units. This proposed housing development will directly benefit from this TIGER project rerouting trucks out of neighborhoods and through the numerous enhancements outlined in this application. A development of this type is needed in this area, especially to support the planned job growth in the local economy. This development will provide residents with affordable housing options in an area destined for substantial employment growth within the next ten years. Facilitating the successful growth of this redevelopment must begin with calculated investments in the critical infrastructure in the surrounding area.

Oversize/Overweight Cargo

ENVIRONMENTAL SUSTAINABILITY

The Broening Highway Corridor Improvement Project will improve energy efficiency, as well as reduce oil dependency and greenhouse gas emission.

Baltimore City is committed to creating a more environmentally sustainable city for all residents and visitors. Baltimore's Office of Sustainability is dedicated to promoting investments in a more sustainable transportation system for the future by "capitalizing on Baltimore's existing network, targeting improvements, and redeveloping in a transit-oriented fashion." Enhancing the connectivity of Port users as well as residents in Southeast Baltimore by implementing key improvements along the Broening Highway Corridor will empower businesses and communities to be more economically, environmentally, and socially sustainable. The proposed projects under this application support the City's dedication to sustainability in several key ways:

- Creating the new connection to I-95 via Cardiff Avenue will improve the environmental conditions for the residential neighborhood protected as a result of rerouting trucks. Eliminating truck traffic through the community to the north will improve air quality for residents. Similarly, following the replacement of Colgate Creek Bridge, trucks will no longer need to detour through the surrounding communities, such as Saint Helena, impacted by this detouring traffic.

- The Colgate Creek Bridge replacement will enable MTA to route additional service to the area, resulting in lower auto-dependency and increased public transit use.

This TIGER VI project will protect and enhance the environment by mitigating environmental impacts.

Baltimore City recognizes that roadway reconstruction and improvements offer an opportunity to create a more environmentally sustainable streetscape. As part of this

project, Baltimore will implement elements that protect and enhance the environment. The following project elements directly speak to this goal:

- Complete streets enhancements implemented as part of the I-95 access improvements that reroute trucks away from the residential community will increase the number of trees as part of streetscape improvements. The road diet that will narrow the street, discouraging trucks from traveling through the neighborhood, decreasing the quantity of impermeable surfaces, facilitating improved rain water management and decreasing run-off into storm drains.

- Design elements in the proposed "road diet" for the section of Broening Highway north of Cardiff Avenue include a new raised planted median which would decrease the surface area of impervious paving.

- Bus stops, street lights, trees, trash receptacles, and other amenities will further enhance the pedestrian environment of the street, encouraging the use of alternative forms of transportation (e.g., walking, biking, and public transit) by creating a safe, welcoming, and clean streetscape.

- The section of Broening Highway south of the proposed Cardiff Avenue connection road will be redesigned to accommodate truck traffic as well as improved roadway amenities for bicyclists and pedestrians.

SAFETY

Transportation investments under the Broening Highway Corridor Improvement Project will improve the safety of transportation facilities and system for all modes of transportation and users.

Improvements to Broening Highway and the new connections proposed to I-95 and I-695 will create a coordinated corridor connecting freight to the interstate system safely and efficiently. As trucks are rerouted away from residential neighborhoods and on to designated routes, truck conflicts with other vehicles and pedestrians will be reduced. Separating freight traffic from residential neighborhoods will only grow in importance, as industrial warehouses in the area continue to expand. Amazon will

Cargo Arrival at the Port

house over 150 truck bays, which will increase freight traffic – and thus the criticality of protecting communities – dramatically. This application's safety benefits include:

- A proposed new roadway will connect Broening Highway to I-95 via Cardiff Avenue, rerouting all truck traffic away from the residential section between Cardiff Avenue and Boston Street along Broening Highway.

- Replacement of Colgate Creek Bridge will allow oversize/overweight vehicle movement to appropriately remain on Broening Highways, rather than circumvent this structurally deficient bridge by way of residential neighborhoods to the east. The project will reduce crash costs 79 percent. Currently, the bridge is unsafe for heavy freight movement.

B. Secondary Selection Criteria

INNOVATION

This TIGER VI application applies a well-studied, comprehensive approach to freight movement in a regionally significant area. Innovative strategies to pursue the outcomes outlined above include key design elements that meet the needs and values of the neighboring communities, such as the road diet outlined in this application. Baltimore City DOT is confident that focusing on the continued movement of the freight traffic and supporting the Port's economic competitiveness is a testament of an innovative approach to problem solving. By focusing efforts on high yielding improvements that strengthen the viability of the entire roadway network, positive environmental impacts will be leveraged to the system for the long-term, amplifying a comprehensive proactive approach.

PARTNERSHIP

This TIGER VI application demonstrates strong collaboration among a broad range of participates, as well as integrates transportation with other public service efforts and projects in the area that are part of a robust planning process. The Broening Highway Corridor Improvement Project has the support of a broad range of participants, public agencies, private business, and local community groups. Strong collaboration among partners, in conjunction with several studies focused on improving freight movement in the area, has resulted in a long history of support for the project elements proposed.

- Jurisdictional and Stakeholder Collaboration: Baltimore City is working with

multiple state and local agencies, including the Maryland Port Administration, Maryland Department of Transportation, State Highway Administration, and Baltimore County, in support of current efforts to improve the Broening Highway corridor. Large, private regional businesses, such as Ports America and Amazon, support this project and understand the economic and quality of life benefits that this project will bring. Most importantly, community residents that live with the daily presence of truck traffic in their neighborhood have been supportive of this project. City government and community groups alike recognize the mutual benefits that these improvements will have on property values, health impacts, and local infrastructure.

- Disciplinary Integration: Baltimore City has brought together a team of multi-disciplinary stakeholders in support of this project to ensure that it coordinates and integrates with existing area projects and plans (see "Background" and "Related Corridor Improvements Currently Underway"). Baltimore City Housing and Community Development, in partnership with a selected developer, is moving forward in the development of a new, mixed-income community that is partially funded with a Housing and Urban Development grant, adjacent to the project area, and will benefit greatly from reduced truck traffic through the neighborhood. In addition, the Baltimore City Department of Planning has provided planning studies and guidance in the design of the project that will benefit the City from a comprehensive approach.

C. Results of Benefit-Cost Analysis

The Benefit-Cost Analysis (BCA) provides monetary benefits and costs (in present day dollars) associated with the project over a 30-year analysis period. The estimated benefits have been categorized by the five long-term outcomes listed in the BCA Resource Guide- State of Good Repair, Economic Competitiveness, Livability, Environmental Sustainability, and Safety.

Specifically, the monetary benefits across these categories were calculated based on a reduction in vehicle miles traveled (VMT) resulting from a change in truck routing both with and without the project. In the without-project condition, truck traffic currently traversing the aging Colgate Creek Bridge to and from Dundalk Marine Terminal would need to be rerouted to I-695, thereby increasing the VMT per truck and adding additional future costs. In the with-project condition, the new Colgate Creek Bridge would be open to all traffic, including oversized freight traffic. Major benefits resulting from proposed corridor improvements in this project:

- Provides freight traffic with a shorter route to access I-95 North
- Decreases vehicle miles traveled per truck
- Substantially reduces bridge maintenance costs

Benefits for the two complimentary projects, the Colgate Creek Bridge and new I-95 access and complete streets improvements, were calculated both separately and combined, as per the BCA guidelines. The benefit-cost ratios for the project as a whole are 2.4 and 1.1 using the 3- and 7-percent discount rates, respectively. The benefit-cost ratios for the scaled project with Colgate Creek Bridge alone are 3.8 and 1.7 using the 3- and 7-percent discount rates, respectively. Additional information, including the specific assumptions and methodology used to calculate the above ratios, is described in detail in the attached Quantitative Benefit Cost Analysis.

V. PROJECT READINESS

With a TIGER VI grant in place, the Broening Highway Corridor Improvement Project is poised to complete the variety of freight network improvements that have already begun, serving as the capstone of several critical and coordinated projects that improve freight movement and community livability. Baltimore City has the technical and financial capacity to undertake this project quickly and meet all milestones.

A. Technical Feasibility

The City has conducted numerous technical and concept studies that examine the alternatives and benefits within the Broening Highway corridor. Baltimore City has contractual mechanisms in place that will allow it to move quickly upon award to begin design and engineering of the project elements. Baltimore City understands the need for projects to be obligated by September 20, 2016 to be in compliance with the TIGER VI grant funding requirements.

The City is committed to advancing the project elements as quickly as possible and exploring all possible project delivery methods to ensure the project meets prescribed implementation deadlines. The City has vast experience executing projects of similar scope.

B. Financial Feasibility

Baltimore City will be the grant administrator and will also implement the project. Baltimore City DOT has received numerous federal grants and is experienced in managing the requirements associated with the receipt of such funds.

C. Project Schedule

The following table presents a traditional project schedule under Baltimore City's typical project implementation process. Baltimore City is committed to meeting required TIGER VI timelines. The Project Schedule is as follows:

Milestone	Date
Preliminary Engineering Complete	October 2014
Environmental Approval	February 2015
Final Design Complete	June 2015
Right-of-Way Acquisition	July 2015
Construction Begins	October 2015
Project Completion	October 2017

D. Assessment of Project Risks and Mitigation Strategies

Baltimore City has an excellent history of risk management across decades of project and construction management. Risks to the project have been analyzed, including procurement delays, environmental uncertainties, and increases in real estate acquisition costs.

- **Procurement:** The City has design and engineering contracts in place that will allow this work to be awarded expeditiously. Design will begin immediately after award of the TIGER VI grant.

- **Environmental:** Feasibility studies that include an examination of environmental factors have been conducted for all project elements requested in this grant.

- **Real Estate Acquisition:** The City is experienced in estimating right-of-way costs along major corridors and is confident that the cost estimates provided are accurate. Cost estimates were averaged for similar zoning scenarios in industrial/abandoned areas.

E. NEPA

Environmental documentation and satisfaction of the National Environmental Policy Act (NEPA) for this project is expected to be complete in August 2016. It is expected that design will occur concurrently with the environmental process, such that bidding documents can be prepared upon receipt of environmental approval and construction can begin in March 2017. The following are known environmental issues with the primary project elements:

- **I-95 Access and Complete Streets Improvements:** There are no significant environmental features in the project area. Residential neighborhoods and associated community services are located in the north and east of the study area. There are no National Register-listed properties or Baltimore City designated landmarks. The St. Paul Cemetery located at 5600 Cardiff Avenue is a cultural resource in the study area.

- **Colgate Creek Bridge Replacement:** The proposed replacement of the bridge will require additional NEPA documentation to be completed, but based on a previously issued Programmatic Categorical Exclusion (PCE) is not expected to result in environmental impacts. Previous findings issued by the Maryland Historical Trust (MHT) have found no historical properties affected.

F. Legislative Approvals

The Baltimore City Department of Transportation has committed the necessary Capital Improvement Program (CIP) funds to the project. All funds have been appropriated as a result of legislative action approving budgets for those funds.

Broening Highway looking North

G. State and Local Planning

Improvements to Broening Highway corridor have been studied and elements of the project are included as a part of several state and local plans. These plans include:

- Southeastern Neighborhoods Strategic Neighborhood Action Plan (SNAP) (2005)
- Maryland Statewide Freight Plan (2009)
- Baltimore Port Communities Freight Impact Study (2012)
- Baltimore Port Communities Freight Management Plan (2013)
- Broening Highway Feasibility Study (2013)

[i]Maryland Port Administration. http://www.mpa.maryland.gov

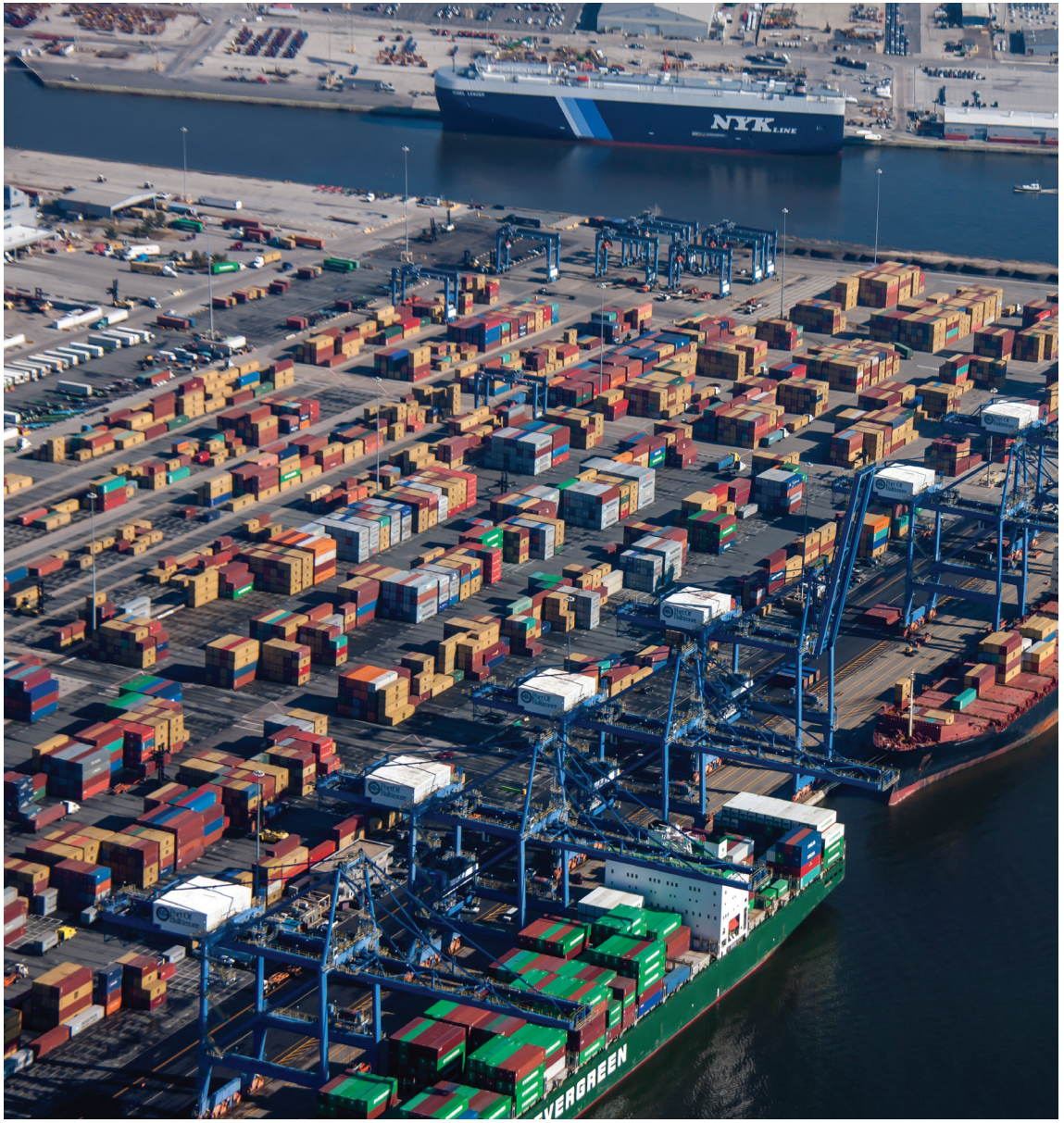
[ii]Baltimore Neighborhood Indicators Alliance Jacob France Institute. http://www.bniajfi.org/

[iii]Baltimore City Office of the Mayor, Mayoral Initiatives. http://www.baltimorecity.gov/OfficeoftheMayor/MayoralInitiatives.aspx

[iv]Baltimore Neighborhood Indicators Alliance Jacob France Institute. http://www.bniajfi.org/

[vv]Baltimore Neighborhood Indicators Alliance Jacob France Institute. http://www.bniajfi.org/

[vi]Baltimore City Office of Sustainability, http://www.baltimoresustainability.org/transportation.



Seagirt Marine Terminal

CITY OF BALTIMORE
STEPHANIE RAWLINGS-BLAKE, Mayor

DEPARTMENT OF TRANSPORTATION
WILLIAM JOHNSON, Director
417 E. Fayette Street, 5th floor
Baltimore, Maryland 21202

April 23, 2014

RE: Federal Wage Rate Certification
TIGER VI Discretionary Grant for Broening Highway Corridor Improvement Project

I, William Johnson, hereby certify that the requirements of Subchapter IV of Chapter 31 of Title 40 of the United States Code (Federal Wage Rate Requirements) will be met in the utilization of any funds granted to the City of Baltimore Department of Transportation, as required under the FY 2014 Appropriations Act.

William Johnson
Signature

Name: **William Johnson**
Position: **Director**
Applicant: **City of Baltimore, Department of Transportation**
Address: **417 E. Fayette Street, 5th Floor**
Baltimore, MD 21202